

ABSTRACT

A method and apparatus for minimizing direct coupling between transmitters and receivers on a downhole logging tool are disclosed. One embodiment includes a transmitter, a bucking device, and a plurality of receivers, where signals may be directly coupled from the transmitter into the receivers and signals may be indirectly coupled from the transmitter into the receivers through the formation and borehole environment. The bucking device minimizes the magnitude of the signals that are directly coupled from the transmitter into multiple receivers within the plurality. By varying the current in the bucking device, the bucking device minimizes the magnitude of the directly coupled signal of each receiver in the plurality, and each receiver may utilize a common bucking device.